Software Version Description for

Translation Maps Segment Version 2.0

for ECPN Version 2.2.0.2

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Software Version Description for Translation Maps

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1.0 Scope

This Software Version Description (SVD) applies to the Electronic Commerce Processing Node (ECPN) Translation Maps Segment. This document follows the standards set forth in *Military Standard Software Development and Documentation* (MIL-STD-498) and in the Data Item Description (DID) for a Software Version Description (DI-IPSC-81442), as tailored by Inter-National Research Institute (INRI).

1.1 Identification

This document applies to Version 2.0 of the ECPN Translation Maps Segment, which is a segment to be used with ECPN software, Version 2.2.0.2.

1.2 System Overview

The purpose of the ECPN Translation Maps Segment is to supply the ECPN Translator with the maps and associated files necessary to convert data to and from X12s and user-defined files (UDFs). This section covers the following items:

- Transaction sets supported by the Translation Maps Segment
- Systems supported by the Translation Maps Segment

1.2.1 Transaction Sets Supported by the Translation Maps Segment

The Translation Maps Segment supports translation for several transaction sets. Table 1-1 lists these transaction sets by identifier and title.

Table 1-1 Transaction Sets

Identifier	Title
521	Income or Asset Offset
820	Payment Order/Remittance Advice
824*	Application Advice
836	Procurement Notice
838	Trading Partner Profile
840	Request for Quotation
843	Response to Request for Quotation
850	Purchase Order
855	Purchase Order Acknowledgement
860	Purchase Order Change Request – Buyer Initiated
865	Purchase Order Change Acknowledgement/ Request – Seller Initiated

*Also used by ECPN for 824 acknowledgements of UDF→X12 translation.

1.2.2 Systems Supported by the Translation Maps Segment

The ECPN Translation Maps Segment provides maps for several systems. To view a list of the systems for which translation is currently available, as well as the transaction sets supported for incoming and outgoing translation, consult Table 1-2.

The third column from the right — 824 — indicates whether ECPN generates an 824 acknowledgement after UDF→X12 translation, and the last column on the right — 997 — indicates whether ECPN generates a 997 acknowledgement after X12→UDF translation. These 824 and 997 acknowledgements inform the originating site of the success or failure of the message's translation.

Table 1-2 Systems Supported by Translation Maps Segment

System	Transaction	X12 version release	UDF→X12	824	X12→UDF	997
EDA-PDF	NA	NA	NA	NA	NA	NA
IGS	521	4010			X	Yes
IPC	820 – Travel (T)	3040	X	Yes		
	820 – Partner (P)	3050	X	Yes		
	820 – Bank (X)	3050	X	Yes		
	820 – CBA	3050	X	Yes		
	820 – DTS	3050	X	Yes		
	824 – DTS	3050	X	Yes		
PADDS (April Specification)	824	3050	X	Yes	X	Yes
	836	3050	X	Yes	X	Yes
	840	3050	X	Yes	X	Yes
	843	3050	X	Yes	X	Yes
	850	3050	X	Yes	X	Yes
	855	3050	X	Yes	X	Yes
	860	3050	X	Yes	X	Yes
	865	3050	X	Yes	X	Yes

Table 1-2 Systems Supported by Translation Maps Segment (Continued)

System	Transaction	X12 version release	UDF→X12	824	X12→UDF	997
SAACONS	824	3010	X	Yes	X	Yes
	836	3010	X	Yes		
	840	3010	X	Yes		
	843*	3010			X	Yes
	850	3010	X	Yes		
	860	3010	X	Yes		
SPS	824	3050	X	Yes	X	Yes
	836	3050	X	Yes	X	Yes
	840	3050	X	Yes	X	Yes
	843	3050	X	Yes	X	Yes
	850	3050	X	Yes	X	Yes
	855	3050	X	Yes	X	Yes
	860	3050	X	Yes	X	Yes
	865	3050	X	Yes	X	Yes
SPS-EDA	NA	NA	NA	NA	NA	NA

*For every SAACONS 843 that is translated, ECPN transmits a 3070 838.

1.3 Document Overview

The purpose of this document is to identify and describe the Translation Maps Segment, Version 2.0. This document contains the following sections:

Scope

States the purpose of the Translation Maps Segment, describes its role within ECPN, and states the purpose of this SVD. (Section 1.0)

Referenced Documents

Lists the documents applicable to this SVD. (Section 2.0)

Version Description

Provides descriptions of the directories installed by the Translation Maps Segment and the software changes made to the Translation Maps Segment. (Section 3.0)

Notes

Defines the acronyms and abbreviations used in this SVD. (Section 4.0)

2.0 Referenced Documents

The following documents are referenced in this SVD. In the event of a later version of a referenced document being issued, the later version shall supersede the referenced version.

- *Data Item Description – Software Version Description* (DI-IPSC-81442), December 1994.
- *Military Standard – Software Development and Documentation* (MIL-STD-498), December 1994.
- *Software User's Guide for Electronic Commerce Processing Node, Version 2.2,* INRI, June 1999.
- *System Administrator's Guide for Electronic Commerce Processing Node, Version 2.2,* INRI, June 1999.

3.0 Version Description

The following subsections describe Version 2.0 of the Translation Maps Segment for ECPN Version 2.2.0.2.

3.1 Inventory of Materials Released

The following physical media and associated documentation make up Version 2.0 of the Translation Maps Segment for ECPN Version 2.2.0.2:

- One tape: Translation Maps Segment Version 2.0 for ECPN Version 2.2.0.2.
- *Software Version Description for Translation Maps Segment Version 2.0 for ECPN Version 2.2.0.2,* July 1999.

3.2 Changes Installed

The following subsections describe:

- Directories installed by the Translation Maps Segment
- Software changes to the Translation Maps Segment

3.2.1 Directories Installed

For a list of the directories that are put in place when Version 2.0 of the Translation Maps Segment is installed, see Table 3-1. Instructions for configuring channels for translation are provided in Section 4.1.2 of the *Software User's Guide for Electronic Commerce Processing Node, Version 2.2.*

Table 3-1 Translation Maps Segment Directories

This directory	Contains	Appears in the GUI as
/h/data/global/EC/ Messages/Maps	Map families (that is, individual collections of map files) for each system for which translation is available	Options in the MESSAGE TYPE list box (other than X12) in the TRANSLATION tab of the edit channel window
	Look-up tables for each system for which translation is available	LOOK-UP TABLES list box in the TRANSLATION tab of the edit channel window
/h/data/local/EC/ html/MapDocs	Mapping specifications and implementation conventions for each system for which translation is available	View Documents button in the TRANSLATION tab of the edit channel window
/h/data/global/EC/ Messages/MessageDesc	Descriptions of map files, transaction sets supported, and any unique addressing information for each system for which translation is available	Information in the DESCRIPTION box in the TRANSLATION tab of the edit channel window

3.2.2 Software Changes

The Translation Maps Segment includes the following software changes:

Version 2.0

1. *Enhancement:* To ensure full Y2K compliance, upgraded the PADDS (April), IGS, IPC, SPS, and SAACONS map families to run with the Mercator execution engine Version 1.4.2.

2. *Problem:* Map Segment Version 1.1.0.0 introduced an error in the Standard Army Accounting and Contracting System (SAACONS) UDF to X12 CUR segment definition, resulting in the translation failures of some 843 messages.

   Solution: Modified the SAACONS UDF to X12 CUR segment definition to ensure proper 843 translation.

3. *Problem:* During SAACONS UDF to X12 translation, the incoming records are space padded to a fixed length of 400 total characters to guarantee minimum record length requirements for the longest possible record types. This padding causes excessive memory usage and disk access, slowing down translations.

   Solution: Reduced the SAACONS record padding to the minimum number of spaces necessary, as required for each particular record type.

4. *Problem:* ECPN validates all incoming SAACONS UDF messages in accordance with both minimal X12 requirements and the recipient's requirements. However, incoming SAACONS UDF messages that are destined for the Defense Automated Printing Service (DAPS) do not have to meet these requirements and may fail during input validation.

   Solution: Modified the SAACONS UDF to X12 maps to bypass input validation for messages destined for a DAPS channel. The incoming UDF content is wrapped in an 864 X12 text message for internal processing. When internal processing is complete, the original UDF message content is extracted and forwarded to the DAPS channel.

5. *Problem:* During SAACONS X12 to UDF translation of an 843 message, a CAGE/DUNS number pairing that is different than the pairing in the trading partner database (TPDB) results in a failed translation, but no negative acknowledgement is sent back to the message originator.

   Solution: An 824 message is now sent back to the message originator, describing the CAGE/DUNS mismatch.

6. *Problem:* During SAACONS X12 to UDF translation of an 843 message, any failure in finding or translating the associated vendor 838 message results in an 824 message that describes the problem being sent back to the vendor (message originator). When this 824 message is generated, a 997 acknowledgment is not generated; however, a 997 acknowledgement is required by the message originator to validate message syntax.

   Solution: A 997 acknowledgement is now sent to the message originator for each SAACONS X12 to UDF translation.

7. *Enhancement:* For Integrated Paying and Collecting (IPC) Partner (P) transactions, added DUNS and DUNS+4 as possible Vendor ID values. The maps now allow for values of 1 (DUNS), 9 (DUNS+4), or 93.

8. *Enhancement:* For IPC UDF Partner (P) and Bank (X) transactions, changed the size of the Vendor ID fields to 13 characters to accommodate DUNS and DUNS+4 values.

9. *Enhancement:* For IPC 820s, modified the maps to include TPDB lookups of DUNS and DUNS+4 (in addition to TPDB lookups of CAGE codes) for the ISA07, ISA08, and GS03 elements. If the TPDB lookup fails to find a DUNS, DUNS+4, or CAGE code, the corresponding value is looked up in the internal vendor table. If the value is not located in the vendor table, then the message fails.

10. *Problem:* For IPC 820s, the GS03 element is padded with trailing spaces. The use of trailing spaces to pad this element is not in accordance with Part 10.

    Solution: Removed the trailing spaces for the GS03 element.

11. *Problem:* The Standard Procurement System (SPS) Implementation Convention (IC) mandates that 840 and 850 UDFs have a two-digit Agency Qualifier Code for the Contract Data Requirements List. The SPS 840 and 850 maps do not contain the Agency Qualifier Code.

    Solution: Added the Agency Qualifier Code to 840s and 850s.

12. *Problem:* The SPS 850 map contains the code H4 as a possible Reference Number Qualifier. This code is no longer valid.

    Solution: Removed the H4 code as a possible Reference Number Qualifier.

13. *Problem:* For SPS 843, 855, and 865 transaction types, the X12 to UDF addressing is incorrect.

    Solution: Modified the 843, 855, and 865 maps to look in the body of the X12 (N1 segment) for the ID field, and if the ID field is a DUNS, DUNS+4, or CAGE code, to use that value for the address.

14. *Problem:* Record 01 of the SPS 855 and 865 maps complies with Revision 1, but SPS requires compliance with Revision 0.

    Solution: Modified the maps to comply with Revision 0.

15. *Problem:* For SPS, the following fields are required but should be optional:

    - 843 transaction, Record 62, Field 06 (DTM04)
    - 850 transaction, Record 10, Field 02
    - 860 transaction, Record 46, Field 05

    Solution: Modified the maps so that these three fields are optional.

16. *Problem:* For all SPS transaction types, several numeric fields are two spaces longer in the UDFs than in the X12s.

    Solution: Modified the SPS maps to allow for all valid input.

17. *Problem:* The SPS maps do not handle multiple header messages.

    Solution: For messages with multiple headers, modified the SPS map for each transaction type as follows:

    - For 850s and 860s, modified the map to use only the header record for the vendor.
    - For 840s, modified the map to create a message for each header.
    - For all transaction types, modified the maps to require that at least one header record always be present.

18. *Problem:* For all SPS transaction types, the ST02 (Transaction Control Number) and SE02 (Transaction Control Number) fields are not properly padded to a minimum length of four digits.

    Solution: Modified the ST02 and SE02 fields so that any value smaller than four digits is correctly padded with zeros (e.g., 22 would be converted to 0022).

19. *Problem:* For all SPS transaction types, the GS08 element is not populated in accordance with the IC.

    Solution: Modified the GS08 field to meet IC requirements.

Version 1.0.0.18 (2 July 1999)

1. *Problem:* The following PADDS transaction sets have 00307 in the ISA12 element: 840s, 850s, 860s, and 997s. The most recent Part 10 requires the ISA12 value to be 00401.

   Solution: Modified the PADDS 840, 850, 860, and 997 maps to properly populate the ISA12 element with 00401.

2. *Problem:* Currently, the PADDS 843 X12 to UDF map incorrectly restricts the value of the ISA12 element to 00307 only. Consequently, each 843 addressed to PADDS with an ISA12 element of 00401 incorrectly fails translation.

   Solution: Modified the PADDS 843 map to allow values for the ISA12 element from 00305 to 00401.

3. *Problem:* PADDS UDF to X12 translation for 840s improperly maps REC49/07 and REC49/08 to 1/MEA05/049 and 1/MEA06/049 for implied decimal values that exceed a field length of 20, not including the sign or decimal point.

   Solution: Modified the MEA segment in the PADDS 840 UDF to X12 map to limit the number of characters for RangeMin/RangeMax elements so that the correct number of characters for decimal type elements are mapped to X12.

4. *Problem:* After loading Map Segment Version 1.0.0.16, all 840 PADDS transactions were rejected by the VANs because of padded zeros in the PO102 field.

   Solution: Removed the padded zeros in the PO102 field.

Version 1.0.0.17 (23 June 1999)

Problem: The ECPN 1.0.0.15 segment included an unintentional change to the IPC UDF to X12 premap, causing asterisks in incoming message RMR segments to be passed through to the destination channel. These asterisks are supposed to be replaced with spaces, to prevent failed processing at the message destination.

Solution: Restored the IPC premap, as fielded in ECPN Translation Segment Update 1.0.0.6, to properly replace the asterisks with spaces.

3.3 Related Documents

This section lists documents pertinent to the Translation Maps Segment (in addition to this SVD).

- *Mercator: Execution Engine Core API Reference Guide*, TSI International Software, Ltd., 1997.
- *Mercator: Map Editor Reference Guide*, TSI International Software, Ltd., 1997.
- *Mercator: Type Editor Reference Guide*, TSI International Software, Ltd., 1997.
- *Security Manager's Guide for Electronic Commerce Processing Node, Version 2.2*, INRI, June 1999.

3.4 Installation Instructions

To install the Translation Maps Segment, Version 2.0:

1. Archive the existing translation look-up tables using the ArchRest Clipboard option, as described in Section 4.7 of the *System Administrator's Guide for Electronic Commerce Processing Node, Version 2.2.*
2. De-install the current version of the Translation Maps Segment (if one is loaded), as instructed in Section 4.1, SEGMENT Installer, of the *System Administrator's Guide for Electronic Commerce Processing Node, Version 2.2*.
3. Install the Translation Maps Segment, Version 2.0, as instructed in Section 4.1, SEGMENT Installer, of the *System Administrator's Guide for Electronic Commerce Processing Node, Version 2.2.*

3.5 Possible Problems and Known Errors

1. *Problem:* During IPC/EFT translation, trading partner information is extracted from the trading partner database (TPDB) or the IPC/EFT look-up tables. When a translation fails to find an entry in the TPDB but finds one in the look-up table, the incorrect error TPDB LOOKUP FAILURE: Couldn't find CAGE xxxxx in TPDB is placed in the JDS, although the message is processed correctly.

   Work-around: If an entry is found in the look-up table, the message RESETERROR: error flag is reset appears in the JDS after the TPDB LOOKUP FAILURE error. TPDB look-up failures followed by a RESETERROR message should be ignored.

2. *Problem:* It is possible for generated 997s to incorrectly report the field number of an error within a segment.

   Work-around: No work-around is available. The field number of an error within a segment is calculated by counting the number of fields in a segment before the error that is reported in the translation audit log. The Mercator Transformation Engine does not report in the audit log when it finds an empty optional field within a segment.

3. *Problem:* Failed translations may result in a zero-length error and a general Translation Failed entry in the JDS.

   Work-around: The TRANSLATION TOOLBOX, available as a pop-up menu option from the Message Log and Error Queue, can be used to determine the reason that the translation failed. If a message contains structural errors (e.g., segments appearing out of order), the map will misinterpret the format of the message and will not be able to report a meaningful error message. The TRANSLATION TOOLBOX can be used to diagnose which portion of the message contains errors; however, manual inspection is required to determine the exact problem.

4. *Problem:* The SAACONS 997 and 824 acknowledgements currently report only whether a translation has passed or failed, without indicating the specific errors that caused it to fail.

   Work-around: Manually translate the message using the TRANSLATION TOOLBOX option, available on the pop-up menu for the Message Log window and the Error Queue window. The TRANSLATION TOOLBOX option will generate a trace file that lists each step of the translator data validation. By viewing this file in conjunction with either the provided X12 Implementation Convention or the UDF specification of the appropriate transaction set, you can deduce the location and nature of the error.

4.0 Notes

The following acronyms and abbreviations appear in this document:

DAPS: Defense Automated Printing System

DID: Data Item Description

DISA: Defense Information Systems Agency

DTS: Defense Travel System

ECPN: Electronic Commerce Processing Node

EDA: Electronic Document Access

GUI: Graphical User Interface

IC: Implementation Convention

IGS: Integrated Garnishment System

INRI: Inter-National Research Institute

IPC: Integrated Paying and Collecting

PADDS: Procurement Automated Data and Document System

SAACONS: Standard Army Accounting and Contracting System

SPS: Standard Procurement System

SVD: Software Version Description

TPDB: Trading Partner Database

UDF: User-Defined File

Y2K: Year 2000

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